

BASIC eco

2949 XXXX

EN

Instruction manual



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1. Introduction

1.1 Employed symbols

In these instructions or on the unit itself you will find symbols which have the following meaning:



Danger

This indicates an imminent risk of injury. Please observe the accompanying documents!



Electrical hazard

There is a risk of electrical shock.



Attention

Failure to observe the associated information can result in damage to the unit.



Note

The operating instructions contain useful information to make handling easier.



Attention!

Wear eye protection.



The unit complies with the relevant EC guidelines.



The unit is subject to the EC guidelines 2002/96/EG (WEEE Directive).

► List, particular attention should be paid

- List
 - List according to importance.

⇒ Instructions / appropriate action / input / operational sequence:

You will be asked to carry out the action in a specified order.

- ◆ Result of an action / reaction of the device / reaction of the program:

The unit or program reacts as a result of your actions or when a specific incident occurs.

Other symbols are explained as they occur.

2. Safety

2.1 Intended use

The Basic line of sandblasting units are designed for use in dental laboratories to remove investment residues, oxides on cast objects, and for surface treatment.

Other areas of use also include divesting press ceramic or sandblasting porcelain occlusal surfaces.

2.2 Improper use

Only spare parts and accessories supplied or authorized by Renfert GmbH may be used with this product. If other spare parts or accessories are used, this could have a detrimental effect on the safety of the device, increase the risk of serious injury and lead to damage to the environment or the device itself.

2.3 Ambient conditions for safe operation

The device may only be operated:

- Indoors
- Up to an altitude of 2,000 m above sea level,
- At an ambient temperature of between 5 - 40 °C [41 - 104 °F] *),
- At a maximum relative humidity of 80 % at 31 °C [87.8 °F], dropping to a linear of up to 50 %
- Relative humidity at 40 °C [104 °F] *),
- With mains power where the voltage fluctuations do not exceed 10 % of the nominal value,
- Under contamination level 2 conditions,
- Under over-voltage category II conditions,

*) Between 5 - 30 °C [41 - 86 °F] the device can be operated at a relative humidity of up to 80 %. At temperatures between 31 - 40 °C [87.8 - 104 °F] the humidity must decrease proportionally in order to ensure operational readiness (e.g. at 35 °C [95 °F] = 65 % humidity, at 40 °C [104 °F] = 50 % humidity). The device may not be operated at temperatures above 40 °C [104 °F].

2.4 Ambient conditions for storage and transport

For storage and transport the following specifications to ambient conditions apply:

- Ambient temperature - 20 – + 60 °C [-4 – + 140 °F].
- Maximum relative humidity 80 %.

2.5 Hazard and warning information



2.5.1 General information

- ▶ If the device is not used in compliance with the supplied instructions, the safety of the device can no longer be guaranteed.
- ▶ The device may only be operated using a mains cable with the country-specific plug system. Any necessary alterations must be carried out by a qualified electrician.
- ▶ The device may only be operated if the information on the identification plate conforms to the specifications of your local mains power supply.
- ▶ The device may only be plugged into outlets which are connected to the protective conductor system.
- ▶ The mains plug must be easily accessible.
- ▶ Disconnect the device from the mains before carrying out work on the electrical parts.
- ▶ It is the responsibility of the operator that national regulations during operation and regarding a repeated safety inspection of electrical equipment are complied with.
For Germany these are BGV A3 in relation with VDE 0701-0702.
- ▶ Check connection cables (such as power supply cords), tubes and housing (i.e. the key-pad) regularly for damage (i.e. kinks, cracks and porosity) or signs of ageing.
Devices with damaged connection cables, tubes or housing parts or other defects must not be operated!
- ▶ Defective devices must be put out of service immediately. Remove the mains plug and ensure the device is not used. Send the device for repair!
- ▶ Only operate the device under supervision.
- ▶ Please observe the national accident prevention regulations!

2.5.2 Specific instructions

- ▶ Always disconnect the unit from the compressed air and power sources prior to beginning any maintenance work.
- ▶ When working on the tank (filling up, cleaning, maintenance) wear protective glasses for protecting your eyes.
- ▶ Any residue of abrasive material on the gasket may lead to leakage and early wear of the gasket. After filling up clean the thread and the gasket and close the lid properly.
- ▶ DO NOT use solvent-containing cleaning agents or disinfectants.
- ▶ Solvents and tensides can create micro-cracking in the plastic (danger of explosion!). Clean the tank and the lid only with a dry cloth. Do not write or stick something on the tanks.
- ▶ Do not unscrew the tank lid as long as the pressure had not been released.
- ▶ Check the tanks and the lids regularly on damages and replace them in case of doubt.
- ▶ Check the tank cover for correct seating prior to beginning operation. Covers that are not securely closed can suddenly be blown off as the tank pressure increases. The resulting flying parts and abrasive represent a serious hazard.
- ▶ Never operate the blasting units without suitable dust extraction and appropriate protective gear, as this could result in health hazards. The type of dust extraction should be selected on the basis of the dust being generated. Follow here absolutely EN 60335-2-69 appendix AA or ask the appropriate authorities.
- ▶ Improper use can result in the risk of eye or skin injuries.
- ▶ Never direct the blasting material towards eyes or unprotected areas of skin!
- ▶ Never work with the view screen open!
- ▶ Caution: Failure to wear proper eye protection can result in eye injury due to particles suspended in the air. Always wear proper eye protection to protect your vision!
- ▶ Do not employ the foot switch when only the compressed air supply hose is connected. The loose hose could wrap around itself and cause serious injury.

2.6 Authorised persons

This product may only be used by persons over the age of 14.

Operation and service may only be carried out by trained personnel.

Repairs which are not described in these instructions may only be carried out by skilled electricians and the specialist dealers.

2.7 Liability exclusion

Renfert GmbH shall be absolved from all claims for damages or warranty if:

- ▶ The product is employed for any purposes other than those cited in the operating instructions.
- ▶ The product is altered in any way other than those alterations described in the operating instructions.
- ▶ The product is repaired by other than an authorized facility or if any but Renfert OEM parts are employed.
- ▶ The product continues to be employed, despite obvious safety faults.
- ▶ In the case of mechanical impact or if the unit is dropped.

3. Product description

EN

3.1 General description

In a laboratory, the sandblasting unit is used to remove investment material deposits, oxides on cast metal objects and for conditioning surfaces.

The sandblasting unit is available in a 1 tank and 2 tank version. The 1 tank version can be upgraded with a second tank (see accessories) to a 2 tank version.

3.2 Components and functional elements

- 1 Hand sleeves
- 2 Base grid
- 3 Selector switch (only on the 2 tanks version)
- 4 ON / OFF switch (lighting)
- 5 Tank lid
- 6 Pressure regulator
- 7 Pressure gauge
- 8 Protection screen
- 9 Hand piece
- 10 Foot switch
- 11 Compressed air tube
- 12 Power cord
- 13 Foot switch connection (A) (push-in connection)
- 14 Air connection (push-in connection)
- 15 Sandblasting tank
- 16 Mixing chamber
- 17 Filter cartridge (push-in connection)
- 18 Suction tube
- 19 Foot switch connection (B) (push-in connection)
- 20 Water trap valve
- 21 Water trap
- 22 Foot switch connection (B) (push-in connection) (only on the 1 tanks version)
- 23 Dosing nipple tool
- 24 Connection set

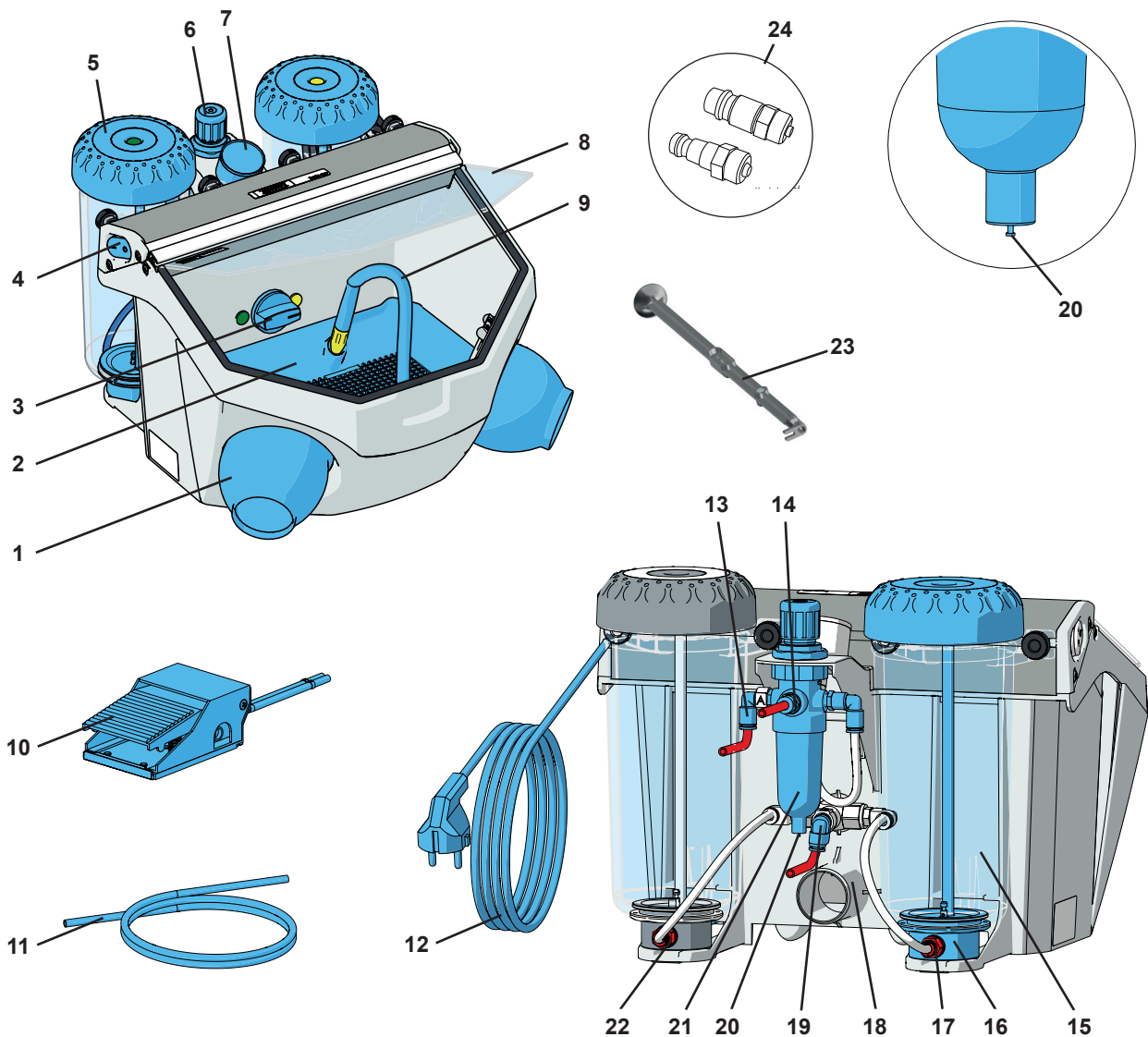


Fig. 1

3.3 Standard delivery

- 1 Sandblasting unit *Basic eco*
- 1 Foot switch
- 1 Connection set
- 1 Dosing nipple tool
- 1 Supplement dosing nipple tool
- 1 Quick Start Guide

3.4 Delivery format

2949 1XXX, 2949 3XXX 1 tank version
 2949 2XXX, 2949 4XXX 2 tank version

3.5 Accessories

Retrofit tanks

2947-0050 Retrofit tank 25 - 70 µm
 2947-0250 Retrofit tank 70 - 250 µm

Abrasives

Cobra aluminium oxide w

1594-1105	25 µm [500 mesh], white	5 kg canister
1594-1205	50 µm [270 mesh], white	5 kg canister
1594-2220	50 µm [270 mesh], white	20 kg bucket
1584-1005	90 µm [170 mesh], white	5 kg canister
1583-1005	110 µm [150 mesh], white	5 kg canister
1583-1020	110 µm [150 mesh], white	20 kg bucket
1587-1005	125 µm [115 mesh], pink	5 kg canister
1587-1020	125 µm [115 mesh], pink	20 kg bucket
1585-1005	250 µm [60 mesh], white	5 kg canister
1585-1020	250 µm [60 mesh], white	20 kg bucket

Rolloblast glass beads

1594-1305	50 µm [400-200 mesh]	5 kg canister
1594-2312	50 µm [400-200 mesh]	12.5 kg canister
1589-1005	100 µm [170-100 mesh]	5 kg canister

Nozzles

Round nozzles

90002-1203	0,4 mm [0.0158 inch]
90003-3213	0,6 mm [0.0256 inch]
90002-1204	0,8 mm [0.0315 inch]
90003-3211	1,0 mm [0.0394 inch]
90003-3214	1,2 mm [0.0473 inch]
90002-1205	1,4 mm [0.0552 inch]
90002-1206	2,0 mm [0.0788 inch]

Slotted nozzles

90003-1739	1,5 x 3,5 mm [0.0591 x 0.1379 inch]
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4. Installation

4.1 Unpacking

- ⇒ Take the unit and all the accessories out of the package.
- ⇒ Check to ensure all delivery parts are complete (compare "Included in Delivery").

4.2 Setting up

- ⇒ Place the unit on a level and stable base.

4.3 Connect foot switch

The following tubes (30, 31) are already connected to the foot switch.

4.3.1 2 Tank version:

- ⇒ Push the tube marked „A“ (30) as far as it will go into the tube connection point „A“ (13).
 - ⇒ Push the tube marked „B“ (31) as far as it will go into the tube connection point „B“ (19).
- When inserting the tubes you will notice a slight resistance which must be overcome.

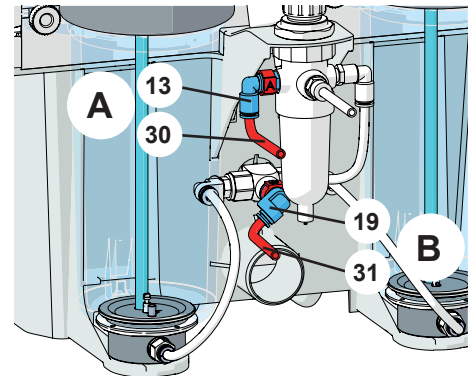


Fig. 2

4.3.2 1 Tank version:

- ⇒ Push the tube marked „A“ (30) as far as it will go into the tube connection point „A“ (13).
 - ⇒ Push the tube marked „B“ (31) as far as it will go into the tube connection point „B“ (22) (on sandblasting tank).
- When inserting the tubes you will notice a slight resistance which must be overcome.

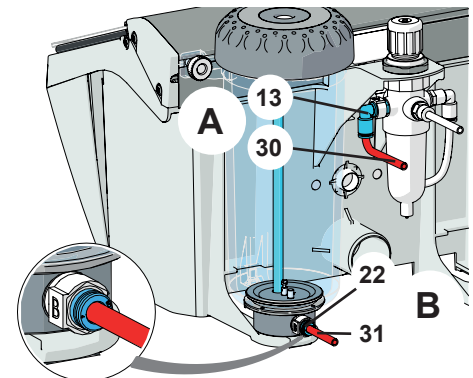


Fig. 3

4.4 Compressed air connection

- ⇒ Push the compressed air tube (11) onto the tube connection point (14) as far as it will go. In doing so there will be a slight resistance to overcome.
- ⇒ Select the relevant hose connection piece from the enclosed attachment set and fit it onto the end of the tube.
- ⇒ Attach to the compressed air network.

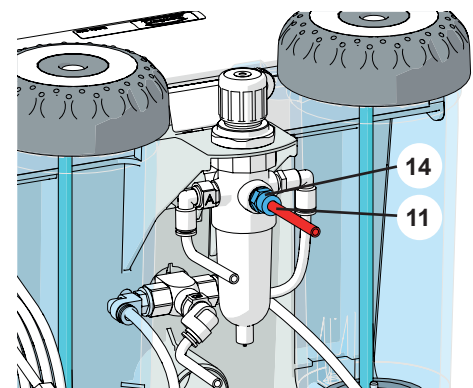


Fig. 4

4.5 Electrical connection



Ensure that the voltage information on the type plate and the mains voltage are compatible.

- ⇒ Unroll the power cable (12, Fig. 1).
- ⇒ Insert the power plug into the building installed wall socket.

4.6 Connect to extraction unit

⇒ Connect the suction tube from the extraction unit to the suction pipe (18).

For suction devices with automatic activation:

⇒ connect the mains plug from the sandblasting unit into the user socket on the suction device.

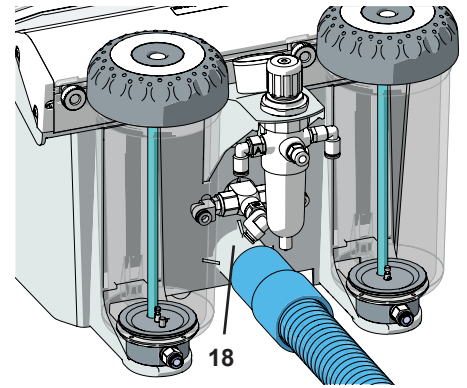


Fig. 5

4.7 Filling the sandblasting tanks



Attention: Never press the foot switch during filling.



Even though the manometer may indicate pressure, the sandblasting tanks are only under pressure if the foot switch is engaged.

⇒ Add abrasive up to the maximum fill level
(the point where the tank jacket thickens just below the thread).



Before closing the tank, clean the screw thread on the lid and the tank and remove any sandblasting residue from the seal.

⇒ Reinstall the tank cover.



Attention: Do not tilt the tank lid when unscrewing.

Always use only clean, dry abrasive of the appropriate grain size (refer to the accessories).

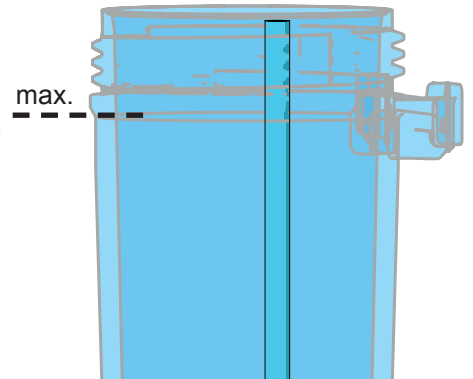


Fig. 6

4.7.1 Authorised sandblasting material

- Cobra (Renfert GmbH)
- Rolloblast (Renfert GmbH)
- ROCATEC (3M ESPE)

Sandblasting materials from other manufacturers may be used providing the grain size, grain shape and degree of purity comply with the above mentioned materials.

5. Operation

⇒ Switch the illumination on (4).

⇒ Select the blasting tank at the selection switch (3) (only on the 2 tanks version).



Do not operate the foot switch during tank selection.

⇒ Take the handpiece out of the holder of the relevant sandblasting tank (see color markings).

⇒ Activate the foot switch (10, Fig. 1).

- ◆ The sandblasting material will flow as long as the foot switch is activated.

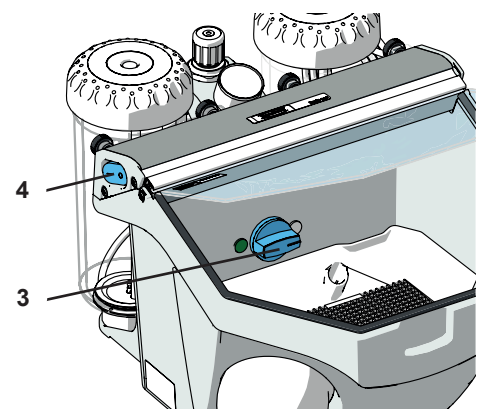


Fig. 7

5.1 Blasting notes

Flat blasting with wide nozzles:

90003-1739 1,5 x 3,5 mm [0.059 x 0.138 inch]



When blasting glass ceramics, refer to manufacturer's notes.

5.2 Select blasting pressure

- ⇒ Take the handpiece out of the holder of the relevant sandblasting tank (see color markings).
- ⇒ Activate the foot switch.
- ⇒ Set the sandblasting pressure at the pressure regulator (6).
 - ◆ The amount of pressure will be shown on the pressure gauge (7).



Do not exceed the maximum pressure (see „Technical Data“).



In the 2 tank version the amount of pressure selected applies for both blasting tanks.

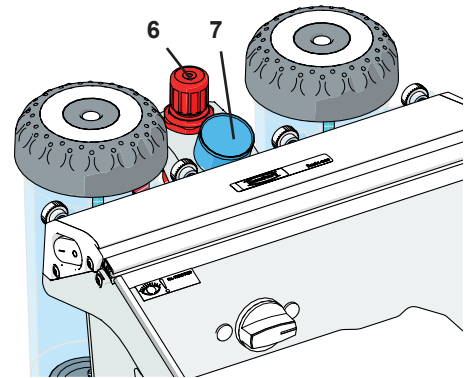


Fig. 8

6. Cleaning / maintenance



Inside the extractor there are small parts which require maintenance. Opening the device, other than for the processes described below, is not permissible!



Before cleaning or servicing:

- ▶ Switch off and unplug the device!
- ▶ Disconnect the appliance from the compressed air supply!

6.1 Clean housing / tanks

- ⇒ **DO NOT** use solvent-containing cleaning agents or disinfectants.
- ⇒ **DO NOT** use aggressive or abrasive cleaning agents.
- ⇒ Wipe the housing and aluminium frame gently with a slightly damp cloth, do not apply pressure.
- ⇒ Wipe out the tanks and lids only with a dry cloth!

6.2 Cleaning the Interior

- ⇒ Remove bottom grate and the blast protection mat.
- ⇒ Vacuum the blasting chamber.
- ⇒ Check the unit regularly for damage underneath the bottom grate / blast protection mat.
- ⇒ Exchange the damaged bottom grate / blast protection mat.

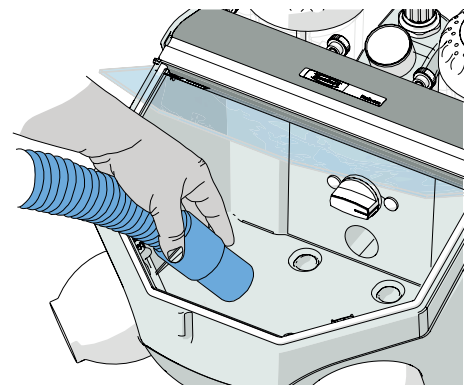


Fig. 9

6.3 Condensation

- ⇒ Inspect the water separator (21).
- ⇒ Drain any water off through the valve (20).

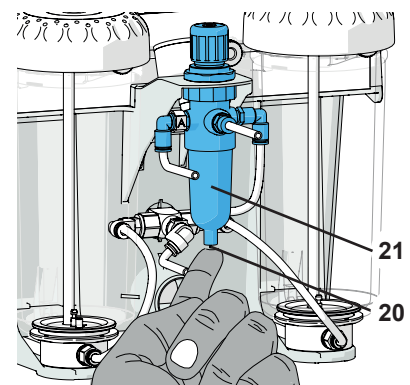


Fig. 10

6.4 Blasting nozzle replacement

For installation see accessory supplement.

6.5 Cleaning the dosing nozzle

The dosing nozzle from the mixing chamber can become blocked due to contamination and moist blasting sand.

The blasting nozzle is removed for cleaning with the enclosed dosing nipple tool (23, Fig. 1) and replaced again afterwards.

⇒ Vacuum clean the blasting tank completely.

⇒ Hold the dosing nozzle with the tool and pull upwards (Fig. 11).

⇒ Clean the dosing nozzle (e.g. blow with compressed air).

⇒ Replace dosing nozzle.



Before remounting, the dosing nozzle should be completely dry!

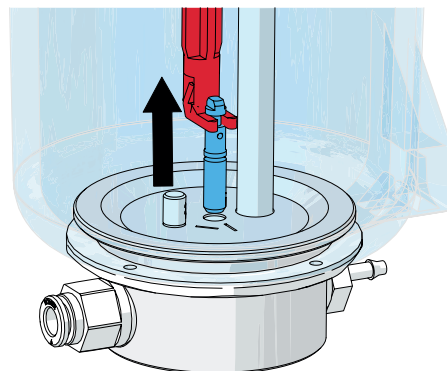


Fig. 11

⇒ The dosing nozzle must be adjusted with blasting tanks of 25 - 70 µm (Fig. 12)!



See also supplement „Cleaning the dosing nozzle“

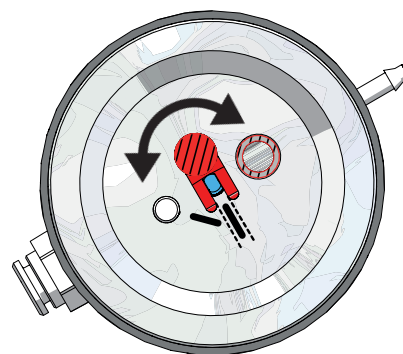


Fig. 12

6.6 Lamp cover

It is possible to remove the lamp cover (50) when cleaning (e.g. removing sandblasting residues and dust).

⇒ Hold the lamp cover at the back on both sides and pull forwards to remove.

⇒ Clean the lamp cover.

⇒ Insert the side of the lamp cover marked „TOP“ into the frame and press the back edge up until it locks into place.



Do not operate without the lamp cover in place, otherwise the protective shield, which cannot be exchanged, will become matt!

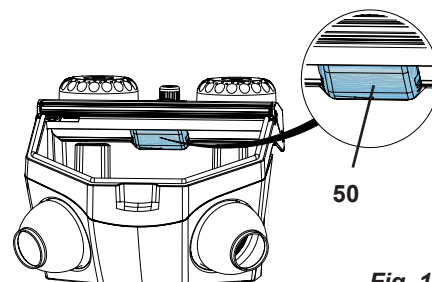


Fig. 13

In the course of time, the lamp cover can become matt. This cover can be ordered as a spare part.

6.7 Spare parts

You can find components subject to wear and the spare parts on the spare part list in the internet at www.renfert.com/p918.

The components excluded from the warranty (such as consumables or parts subject to wear and tear) are marked on the spare part list.

Serial number and date of manufacturing are shown on the type plate of the unit.

7. Trouble shooting

Problem	Possible cause	Corrective action
No air and no abrasive.	<ul style="list-style-type: none"> • Blasting nozzle blocked at the hand-piece. • Foot switch connecting lines kinked. • Tank selection switch in an intermediate position. 	<ul style="list-style-type: none"> • Unscrew the nozzle from the hand-piece and blow it out. • With the nozzle removed, blow out the blasting hose by activating the foot pedal. • Inspect/correct the connection lines. • Turn the switch until you feel it click into place.
Only air, no or very little abrasive.	<ul style="list-style-type: none"> • The dosage nozzle in the mixing chamber is blocked due to contaminated or moist sand. • Mixing chamber filter combination blocked. • Abrasive contains impurities or is moist. 	<ul style="list-style-type: none"> • Cleaning the dosing nozzle, see chapter 6.5. • Change filter cartridge (17, Fig. 1) (wrench SW14). • Replace the abrasive.
Pressure control cannot be adjusted.	<ul style="list-style-type: none"> • The pressure control button is locked. 	<ul style="list-style-type: none"> • Pull the pressure control button upwards to unlock.
Unit blasts continuously.	<ul style="list-style-type: none"> • Foot switch connected incorrectly. • Valve in foot switch is defective. 	<ul style="list-style-type: none"> • Inspect / correct the foot switch connection. • Replace foot switch.
Lamp is not alight.	<ul style="list-style-type: none"> • Power cord not plugged in. • Illumination defect. 	<ul style="list-style-type: none"> • Plug the power cord into the wall outlet. • Change light using the service or see spare part list.
Compressed air leaking from the foot switch.	<ul style="list-style-type: none"> • Pneumatic hoses reversed. 	<ul style="list-style-type: none"> • Reverse the connections.
Foot switch fails to switch on.	<ul style="list-style-type: none"> • No pressure at the compressed air connection. • Pneumatic hoses are kinked. 	<ul style="list-style-type: none"> • Inspect the compressed air lines and/or the compressor. • Reposition the hoses.
Foot switch hoses cannot be disconnected from the unit.	<ul style="list-style-type: none"> • Push-in connection is not released (Fig. 2 / 3). 	<ul style="list-style-type: none"> • Press the push-in connection ring on the hose side firmly while pulling on the hoses.

8. Technical data

Nominal Voltage	230 V	120 V	100 V
Permissible mains voltage:	220 - 240 V	120 V	100 V
Mains frequency:	50 / 60 Hz		
Power consumption:	9 W		
Maximum connection pressure:	6 bar [87 psi]		
Working pressure:	1 - 6 bar [14.5 - 87 psi]		
Dimensions (Width x Height x Depth):	350 x 275 x 400 mm [13.8 x 10.8 x 15.7 inch]		
Weight, approx.:			
1 tank version:	4.4 kg [9.7 lbs]		
2 tank version:	5.5 kg [12.1 lbs]		
Ø Compressed air hose:			
interior:	4 mm [157 mil]		
exterior:	6 mm [236 mil]		
Ø Size of pipe union for external extraction unit:			
interior:	35 mm [1.38 inch]		
exterior:	40 mm [1.57 inch]		
Blasting chamber volume:	10 l [2.64 US gal]		
Tank capacity, each:	1000 ml [34 fl oz]		

9. Warranty

Provided the unit is properly used, Renfert warrants all components for **3 years**.

Warranty claims may only be made upon presentation of the original sales receipt from the authorized dealer.

Parts which are subject to natural wear and tear (wear parts) and consumables are excluded from the guarantee. These parts are marked in the spare part list.

The warranty is voided in the case of improper use; failure to observe the operating, cleaning, maintenance and connection instructions; in case of independent repairs or repairs by unauthorized personnel; if spare parts from other manufacturers are employed, or in case of unusual influences or influences not in compliance with the utilization instructions.

Warranty service shall not extend the original warranty.

10. Disposal instructions

10.1 Disposing of the unit

The unit must be disposed of by an authorized recycling operation. The selected firm must be informed of all possibly health-hazardous residues in the unit.

10.1.1 Information on disposal for countries within the EC

To conserve and protect the environment, prevent environmental pollution and improve the recycling of raw materials, the European Commission adopted a directive that requires the manufacturer to accept the return of electrical and electronic units for proper disposal or recycling.



Within the European Union units with this symbol should not therefore be disposed of in unsorted domestic waste.

For more information regarding proper disposal please apply at your local authorities.

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